Report on test in accordance
with O.E.C.D. STANDARD CODE

O.E.C.D. No. 816



Agricultural Tractor
FENDT FARMER 308 LS TURBOMATIK

Manufacturer
X. Fendt & Co., Maschinen- und Schlepperfabrik
D-8952 Marktoberdorf

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This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD CODE for the Official Testing of Agricultural Tractor Performance. It does not contain an evaluation of the tractor performance on practical work.

Duration of Tests: January till April 1981
DLG-Testing-Station for Agricultural Machinery, Max-Eyth-Weg 1,
D-6114 Groß Umstadt

This report has been approved by the O.E.C.D. Coordinating Centre (C.N.E.E.M.A., France) as being in accordance with the O.E.C.D STANDARD CODE.

Date of Approval: 23rd October 1981 O.E.C.D. No. 816

In this report all performance characteristics are given corresponding to the International System of Units.

The reference to the former used Technical System of Units is given by the following relations:

Forces	1 daN = 10 N	= 1,02 kp	or 1 kp	= 0,981 daN
Powers	1 kW	= 1,36 PS	or 1 PS	= 0,736 kW
Pressures	1 bar	= 1,02 kp/cm²	or 1 kp/cm²	= 0,981 bar
	1000 mbar = 750,1 mm Hg			

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PRÜFUNGS-ABTEILUNG
FENDT FARMER 308 LS

Test No. 79-246

Tractor manufacturer:	X. FENDT UND CO D-8952 Marktoberdorf
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Marktoberdorf and Groß-Umstadt
Duration of running-in:	Engine and tractor appr. 80 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	X. FENDT UND CO
Model:	FARMER 308 LS TURBOMATIK
Type:	Wheel tractor, unit construction, all wheel drive
Serial-No.:	178.21.0002

Engine

Make:	MOTORENWERKE MANNHEIM AG
Model:	D-226-4
Type:	Watercooled 4-stroke Diesel-engine, direct injection
Serial-No.:	D 226.4.2.15034
Cylinders:	4, in line, bore 105 mm, stroke 120 mm, displacement 4156 cm^3, compression ratio 16; dry cylinder liners
Valves:	Overhead
Fuel system:	SOLEX fuel feed pump PE 20136; BOSCH in line injection pump: PES 4A 80D 320/3 RS 1301, manufacturer's production setting 57,4 mm^3/stroke at rated speed and full load; injection timing 28° before TDC; BOSCH multihole injection nozzles DLLB 150 S 821, injection pressure 180 bar; BOSCH fuel filter with replaceable cartridge; capacity of fuel tank 108 l
Governor:	BOSCH centrifugal variable speed type governor EP/RSV 325-1500 A 2 B 505 DR; governed range of engine speed 650 to 2500 rev/min; rated engine speed 2350 rev/min

Air cleaner:	MANN dry paper element filter with pre-cleaner, with replaceable main cartridge and safety cartridge, electrical maintenance indicator; air intake above bonnet
Exhaust silencer:	EBERSPÄCHER reflection-absorption-type silencer; 110 mm dia, 700 mm long; on the left hand side above bonnet; mouth showing upwards, 2446 mm above ground; optionally available silencer with mouth showing rearwards to the left
Lubrication system:	Forced feed from gear type pump; strainer in sump; filter in full flow with by-pass valve and replaceable cartridge; oil and cartridge change period 200 operating hours; oil capacity 9,5 l; specified oil quality MIL-L-46 152 or MIL-L-2104 C recommended oil viscosities: tropics SAE 40 over + 5°C SAE 30 over -10°C to +10°C SAE 20W/20 below - 5°C SAE 10W
Cooling system:	Watercooling with impeller pump; overpressure valve set to 0,4 bar; cooling circuit with by-pass and thermostat; fan with 7 blades, 455 mm dia; water capacity 13 l
Starting system:	Electrical BOSCH pre engaged-drive starting motor, 3 kW; BERU flame plug in intake manifold
Electrical equipment:	12 Volt, negative earth BOSCH 3-phase alternator G1-14V 33A 27, 462 W; 1 lead acid battery, 110 Ah at 20 hours rating

Transmission

Clutch:	1. VOITH GETRIEBE KG fluid clutch 358 TD-F for travel and p.t.o. drive 2. FICHTEL UND SACHS AG dry disc type clutch GTNX 310, 310 mm dia, hydraulically by pedal operated, self readjusting
Gear box:	Own make synchromesh speed change gear with 3 forward speeds and 1 reverse speed; 2 group gears: synchronized fine stepped group gear high/low (FS/FL); collar shifted road group (S), sliding gear shifted field group (A); 2 independent synchronized overdrive speeds, totally 14 forward and 4 reverse speeds; optionally available: 3rd overdrive speed (40 km/h) creeper group
Rear axle:	Own make portal construction; bevel gear drive; bevel gear differential with pedal operated lock, not selfdisengaging; differential lock with pilot lamp; spur gear final drives in portals
Driven front axle:	ZAHNRADFABRIK FRIEDRICHSHAFEN AG APL 1552 driven by universal joint shaft on the left hand side of gear box, dry multi-disc clutch to be shifted by hand lever under load; bevel gear drive; bevel gear differential with automatic lock; planetary final drives
Oil change:	Fluid clutch all 5000 operating hours other gears all 1000 operating hours or once a year
Recommended oil qualities:	Gear box MIL-L-2105 final drives and front axle differential MIL-L-2105 B

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Oil capacity and viscosity:	Fluid clutch	5,8 l		SAE 10W
	gear box	32,5 l		SAE 80
	rear axle final drives	8,8 l	each	SAE 90
	front axle differential	6,0 l		SAE 90
	front axle final drives	1,0 l	each	SAE 90

Total ratios and speeds

Group	Fine stepped group	Gear	Total ratio engine : driving wheel	Nominal travelling speed at rated engine speed *) km/h
Forward speeds				
A	FL	1	427,26	1,41
		2	295,16	2,26
		3	182,31	3,65
	FS	1	380,95	1,75
		2	238,10	2,80
		3	147,06	4,53
S	FL	1	118,06	5,64
		2	73,79	9,03
		3	45,58	14,62
	FS	1	95,24	7,00
		2	59,52	11,19
		3	36,76	18,12
1st overdrive			28,46	23,41
2nd overdrive			22,22	29,98
Reverse speeds				
A	FL	R	295,16	2,26
	FS	R	238,10	2,80
S	FL	R	73,79	9,03
	FS	R	59,52	11,19

*) Calculated with the radius index 770 mm and the slip of the fluid clutch of 2,3%, measured at rated speed and maximum power

Power take-off

Main p.t.o.: At rear of tractor;
driven by a dry multiplate clutch,
independent from driving clutch,
operated by hand lever on console;
height above ground 720 mm, in median plane of tractor,
337 mm behind rear axle centre line;
35 mm dia, 6 splines ISO 500/DIN 9611, type 1

2 speeds preselectable by hand lever:

1000 rev/min p.t.o. (with pilot lamp)
1035 rev/min at rated engine speed and full load,
1060 rev/min at rated engine speed with no load,
standard p.t.o. speed 1000 rev/min at
2270 rev/min engine speed at full load or
2217 rev/min engine speed at no load

540 rev/min p.t.o.
581 rev/min at rated engine speed with no load,
standard p.t.o. speed 540 rev/min at
2185 rev/min engine speed with no load

fluid clutch slippage at full load
at rated engine speed 2,3%
at standard p.t.o. speed 1000 rev/min 2,3%

direction of rotation clockwise, viewed from tractor rear

optionally available p.t.o. with 750 rev/min instead of 1000 rev/min p.t.o.

Ground speed p.t.o.: Optional,
not fitted on tested tractor

Secondary p.t.o.: Optionally available front p.t.o.
(1000 rev/min),
not fitted on tested tractor

Power lift

Own make
hydraulic power lift, unit construction,
draft and position control
both steplessly mixable,
floating position;
top link sensing, lowering throttle

Hydraulic system:

Open centre system;
BOSCH tandem gear type pump HY/ZFFS 11/16+14
directly driven by engine
delivery 16 cm³/rev or 40,0 l/min
at rated engine speed;
hydraulic filter with replaceable cartridge
incorporated in return oil line, cartridge change
after 1000 operating hours or once a year;
BOSCH control valve HY/SR 175/60L,
maximum working pressure 175 + 12 bar;
single acting cylinder with 86 mm bore and
137,4 mm stroke, with safety valve,
set to 210 bar;
2 external additional cylinders with 50 mm bore
and 185 mm stroke

1 single acting auxiliary BOSCH control valve
with return line fitted;
up to 5 single, partially double acting
auxiliary valves with oil tappings and
return lines in the rear and middle of tractor
available;
optional flow dividing valve in steering oil
circuit and additional control valve:
residual oil flow of steering circuit may be
taken off directly or in common with oil flow of
hydraulic circuit through oil tappings

separate hydraulic tank with 20 l capacity;
max. 8 l may be taken off through oil tappings
when tractor is travelling,
16 l when tractor is working stationary

recommended oil:
engine oil SAE 20W/20 (trapics SAE 30)
MIL-L-2104C or MIL-L-46 152

oil change after 1000 operating hours
or once a year

Implement linkage at rear:	Three point linkage ISO 730/I or DIN 9674, category 2; length of lift rods adjustable by crank handles from 683 to 812 mm, mean length of lift rods 748 mm with lifting range above ground from 138 to 859 mm
Implement linkage at front:	Optionally available, not fitted on tested tractor
Holed drawbar:	Long bar, fitted on clevis of lower links, can be used as towing bar; short bar available; total length 1700 mm; length between joint balls 830 mm, thickness 25 mm, width 100 mm, centre hole and 8 holes to each side, all holes 33 mm Ø; height above ground adjustable by power lift; with lift rods of 748 mm length the holed drawbar may be fixed hydraulically-mechanically to a height of 395 mm above ground measured at surface of bar; lower links stabilization by quick clamping devices; distance of holes' centre line with lower links in horizontal position: from rear axle centre 1057 mm from p.t.o. shaft end 701 mm

Pull attachment

Trailer hitch:	ROCKINDER 273 U 140 non-automatical, optionally automatical hitch available; height above ground adjustable by one-hand quick adjustment to 498, 558, 742, 784, 826, 868 and 910 mm; hitch hole 33 mm dia, distance of hitch hole centre to rear axle centre 550 mm, to p.t.o. shaft end 194 mm, permissible vertical load 1500 kg

Swinging drawbar:	Optionally available, not fitted on tested tractor; optionally available fixed pin (piton fix) or hitch
Towing hitch:	742 mm above ground at front of tractor

Steering

Own make in cooperation with
ZAHNRADFABRIK FRIEDRICHSHAFEN AG
hydrostatic steering model 8491 with
own oil circuit and oil filter,
filter change after 1000 operating hours or
once a year;
oil supply by tandem part of hydraulic pump,
displacement 14 cm^3/rev or
34,0 l/min at rated engine speed;
optional flow dividing valve in oil circuit
of steering (see page 9, hydraulic system);
oil reservoir in common with power lift system;
1 double acting ram,
directly acting on front axle,
235 mm stroke, 50 mm dia,
piston rod 22 mm dia

Brakes

Parking brake:	Internal-expanding-shoe brake; mechanically acting on 2 brake drums on each differential half shaft, 180 mm dia, 30 mm width, operated by pulling handle with ratchet
Service brake:	Own make in cooperation with GIRLING BREMSEN GMBH muscle power brake with hydraulic transmission to 2 disc brakes on the differential half shafts with 2 lining discs each; optional additional disc brake situated on joint shaft to front wheel drive; not fitted on tested tractor
Steering brake:	Divided pedal of service brake, for normal use locked together

Wheels

Steered wheels:	2 pneumatics in front 13,6 R 24 8 ply, radial type casing; max. permissible load per tyre 1545 kg at 2,0 bar inflation pressure and 30 km/h; track width 1696 mm; track width adjustable to 1835 mm by reversing wheels; rims W 12 x 24, optionally offset lug type rims available
Driven wheels:	At front and at rear driving rear wheels: 2 pneumatics 18,4 R 34 8 ply, radial type casing; max. permissible load per tyre 2565 kg at 1,4 bar inflation pressure and 30 km/h; track width 1656 mm, adjustable to 1516 mm by reversing wheels; rims DW 14L x 34, optionally offset lug type rims available
Wheel base:	2320 mm

Cab

Own make
OECD-tested safety-cab
OECD-No. CSD 0274/1;
optionally OECD-tested safety frame with roof available;
cab mounted to tractor by 4 silent blocks;
front-, rear- and side windows tiltable;
doors on both sides with additional stop devices for ventilation;
2 steps each on either side;
combined heating and ventilation system with blower, connected to the cooling circuit;
air outlet jets near the cab floor and at the windscreen;
additional fan-assisted ventilation system in the roof optionally available

noise-reduction materials
floor:
2-layer-bitumen-mat 4 mm,
heavy-layer nap pattern mat with rubber foam lining 12 mm

mudguards:
PUR-foam coated with imitation leather 15 mm;
roof:
moulded resin-impregnated, cotton fibres 6 mm;
instrument and steering console:
sheet metal plates coated with bitumen-mat 4 mm,
rubber foam mat 40 mm below instrument panel,
additional rubber foam stripes 50 to 70 mm in
lower part of console

Seat

GRAMMER DS 85H/50R
upholstered seat with arm rests and folding back rest (upper part),
adjustable spring with shock absorber;
additional horizontal spring suspension with shock absorber; in longitudinal direction;
height of platform above ground 1070 mm,
height of unballasted seat above platform adjustable in 2 steps from 500 to 560 mm;
longitudinal adjustment range 160 mm;
optionally seat GRAMMER DS 85H/90 AR available

Number of grease points 18

Dimensions

Total length:	3997 mm	without ballast
	4939 mm	with ballast
Total width:	2105 mm	without ballast
	2680 mm	with ballast
Total height:	2597 mm	to top of cab roof, optionally cab with roof which is 70 mm lower available
Ground clearance:	420 mm	below front axle differential

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Lighting equipment — Electrical, 12 Volt
as per German legislation

	Dimensions mm	Height above ground to centre mm	Distance from outside edge of tractor to centre mm
Head lamps	135 x 115	1060	875
Side lamps	65 x 20	1048	230
Rear lamps	33 x 60	1525	350
Reflectors			
1st pair	115 x 25	1470	350
2nd pair	70 Ø	625	680

Permissible total weights and axle loads

for all available wheel equipment

Wheel equipment front	Wheel equipment rear	Permissible total weight kg	Permissible axle load front kg	Permissible axle load rear kg
11,2-28 6 ply	9,5-44 8/12 ply	6000	2200	3890
12,4-24 6 ply	13,6-38 8 ply			3820
12,4-28 6 ply	14,9-38 8 ply			4360
13,6-24 8 ply	16,9-34 6 ply			4030
14,9-24 6 ply	18,4-30 8 ply			4830
14,9/80-24 10 ply				

Running-time meter — Mechanical, with tachometer combined, driven by camshaft of engine; reference engine speed for one really counted hour 1716 rev/min

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TEST CONDITIONS

Track of wheels

front	1696 mm
rear	1656 mm

Weights

During drawbar performance tests

		Without driver	With driver
Without ballast:	front	1520 kg	1535 kg
	rear	2370 kg	2455 kg
	total	3890 kg	3990 kg
Ballast in front:	1 front frame		196 kg
	19 weights, total weight		703 kg
Ballast at rear:	1 rear frame		300 kg
	25 weights, total weight		811 kg
With ballast:	front	2185 kg	2200 kg
	rear	3715 kg	3800 kg
	total	5900 kg	6000 kg

Fuels and lubricants used in test

Fuel:	ARAL Diesel-fuel DIN 51 601	
	specific gravity at 15°C	
	at engine test	0,827 kg/l
	at p.t.o. test	0,833 kg/l
	at drawbar test	0,828 kg/l
Engine:	ARAL SUPER ELASTIC	SAE 10W
Fluid clutch:	MOBIL DELVAC 1310	SAE 10W
Transmission:	MOBIL MOBILUBE HD 90	SAE 90
Differential in front, final drives at rear and in front:	MOBIL MOBILUBE HD 90	SAE 90
Power lift and power steering:	MOBIL MOTREX 8920	SAE 20W/20

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COMPULSORY TESTS

(1) MAIN POWER TAKE-OFF PERFORMANCE (1000 rev/min)

Date of tests: 4th February 1981
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Power	Speed engine	Speed fl.clutch output	Speed p.t.o.	Fuel consumption total	Fuel consumption total	Fuel consumption spec.	Specific energy
kW	rev/min	rev/min	rev/min	l/h	kg/h	g/kWh	kWh/l
Maximum power							
At 2-hour test							
52.0	2350	2295	1035	16.01	13.33	256	3.25
At the speed recommended for drawbar work							
52.0	2350	2295	1035	16.01	13.33	256	3.25
Part loads, the governor hand lever in the position corresponding to the maximum power at full load							
(i) 85% of the torque at maximum power at 2-hour test							
45.1	2388	2339	1055	14.09	11.73	260	3.20
(ii) unloaded							
-	2489	2488	1122	4.20	3.49	-	-
(iii) 50% of the torque defined in (i)							
23.1	2434	2404	1084	8.81	7.33	317	2.63
(iv) maximum power							
52.0	2350	2295	1035	16.01	13.33	256	3.25
(v) 25% of the torque defined in (i)							
11.8	2460	2440	1100	6.39	5.32	453	1.85
(vi) 75% of the torque defined in (i)							
34.4	2416	2378	1073	11.37	9.46	275	3.02

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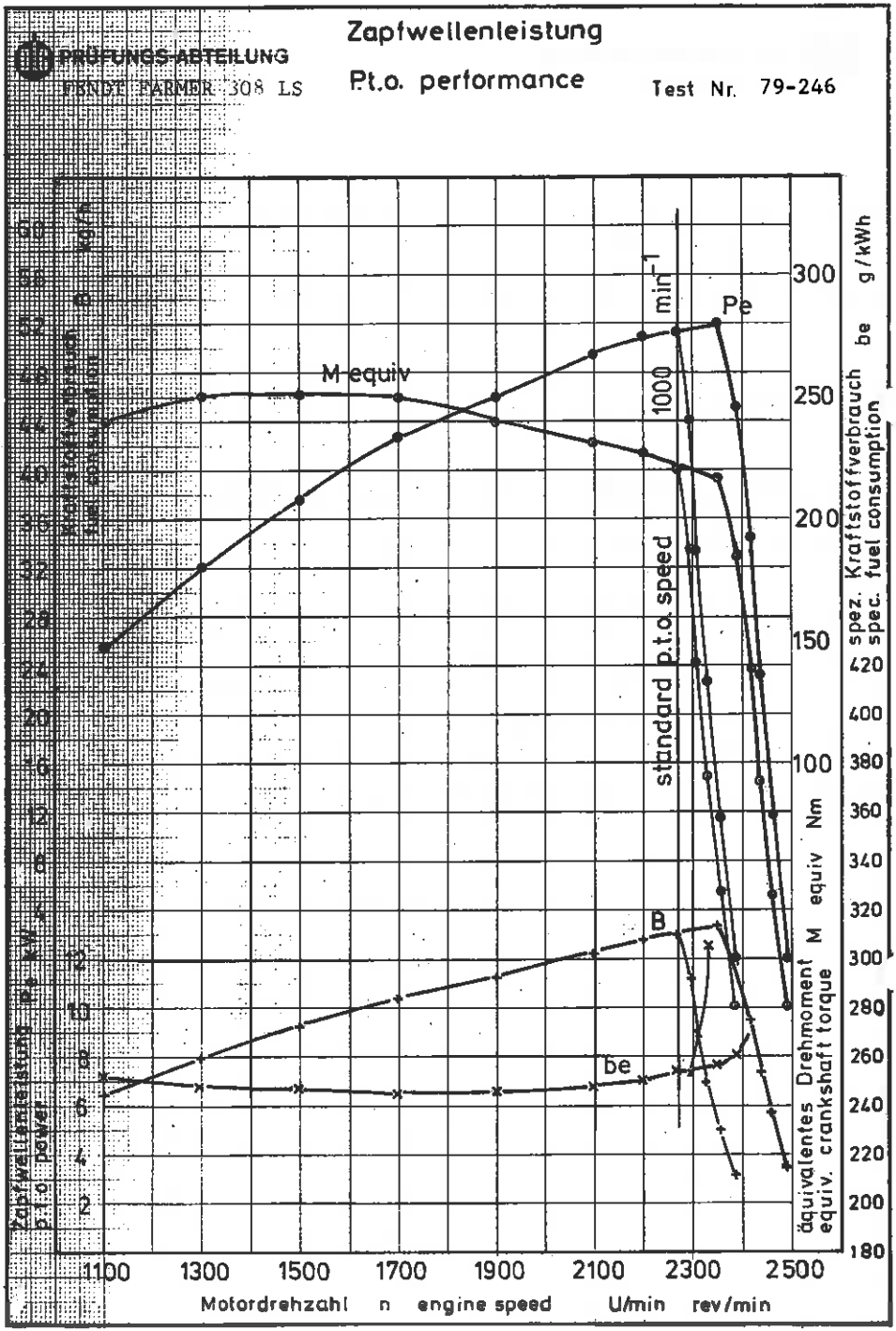
Power	Speed engine	Speed fl.clutch output	Speed p.t.o.	Fuel consumption total		Fuel consumption spec.	Specific energy
kW	rev/min	rev/min	rev/min	l/h	kg/h	g/kWh	kWh/l
Part loads, the governor hand lever in the position corresponding to the standard p.t.o. speed at full load							
(i) 85% of the torque at maximum power at standard p.t.o speed							
44.0	2294	2245	1012	13.40	11.15	253	3.28
(ii) unloaded							
-	2385	2382	1074	3.81	3.17	-	-
(iii) 50% of the torque defined in (i)							
22.6	2328	2299	1037	8.29	6.90	306	2.72
(iv) maximum power							
51.1	2270	2217	1000	15.58	12.97	254	3.28
(v) 25% of the torque defined in (i)							
11.5	2356	2339	1055	5.98	4.98	433	1.92
(vi) 75% of the torque defined in (i)							
33.3	2306	2267	1022	10.69	8.90	267	3.11

Standard specific fuel consumption (g/kWh): 260/317/253/306

No load maximum engine speed: 2489 rev/min
Equivalent flywheel torque at maximum power (2 hours): 216 Nm
Maximum equivalent flywheel torque: 251 Nm at 1500 rev/min of the engine

Mean atmospheric conditions:	temperature	18 °C
	pressure	993 mbar
	relative humidity	42 %
Maximum temperatures:	coolant	80 °C
	engine oil	98 °C
	fuel	19 °C
	engine air intake	21 °C

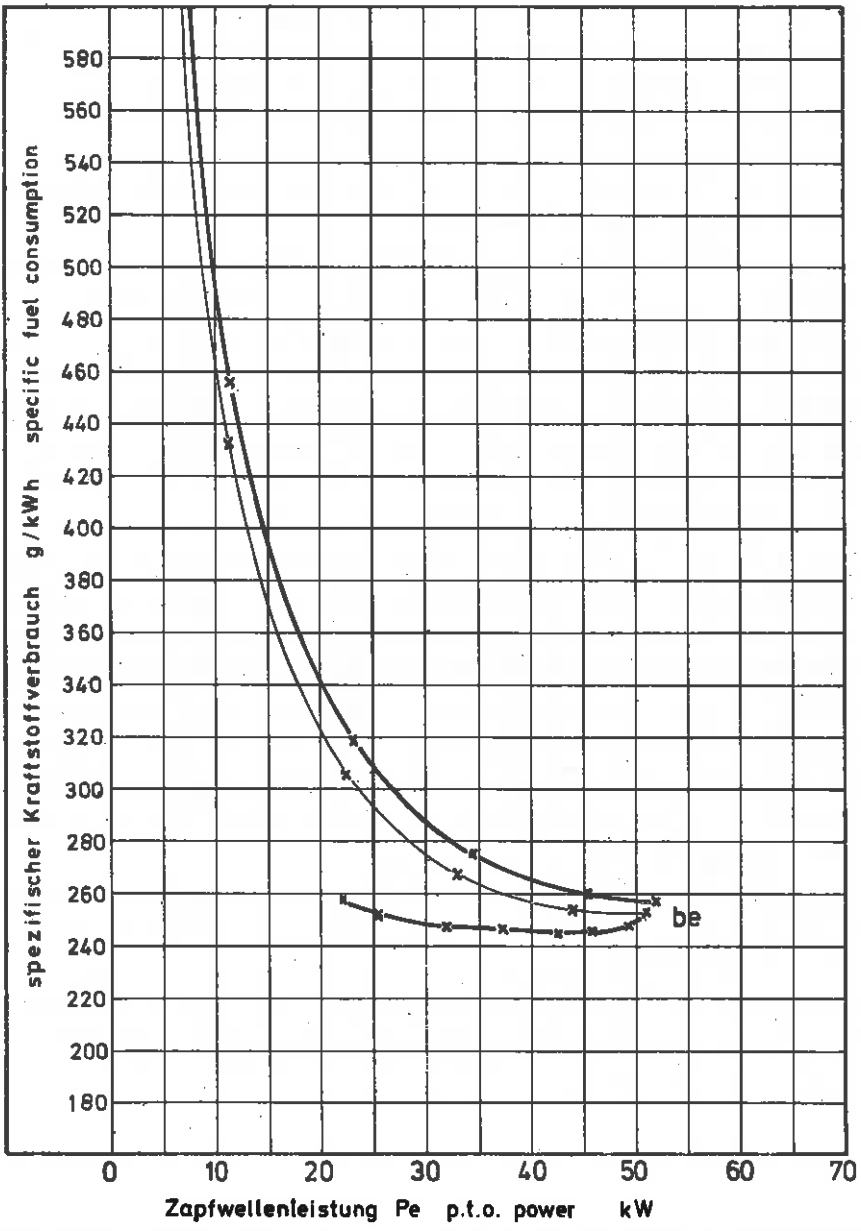
The equivalent flywheel torques are given relative to the output shaft of the fluid clutch


Zapfwellenleistung
P.t.o. performance
PRÜFUNGS-ABTEILUNG
FENDT FARMER 308 LS
Test Nr. 79-246
M equiv
Pe
B
be
standard p.t.o. speed
1000 min⁻¹
Zapfwellenleistung P.t.o. power
äquivalentes Drehmoment equiv. crankshaft torque M equiv Nm
spez. Kraftstoffverbrauch spec. fuel consumption be g/kWh
Motordrehzahl n engine speed U/min rev/min
1100 1300 1500 1700 1900 2100 2300 2500
180 200 220 240 260 280 300 320 340 360 380 400 420
100 150 200 250 300

PRÜFUNGS-ABTEILUNG
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Zapfwellenleistung
P.t.o. performance

Test Nr. 79-246



PRÜFUNGS-ABTEILUNG
FENDT FARMER 308 LS

(2) DRAWBAR PERFORMANCE

Date of tests: 1st till 15th April 1981
Type of track: Concrete

Gear no. and group	Driving speed km/h	Power kW	Drawbar pull daN	Engine speed rev/min	Slip of wheels %
(i) MAXIMUM POWER (unballasted) height of drawbar above ground 505 mm					
2 A FS	2,47	29,3	4269	2401	14,9
3 A FL	3,17	37,6	4272	2378	15,0
3 A FS	4,11	43,7	3825	2347	9,4
1 S FL	5,30	44,9	3048	2347	6,1
1 S FS	6,69	45,4	2441	2352	4,5
2 S FL	8,71	46,1	1907	2347	3,4
2 S FS	10,89	45,6	1509	2348	2,5
3 S FL	14,30	44,9	1131	2347	1,7
(ii) MAXIMUM POWER (ballasted) height of drawbar above ground 480 mm					
1 A FL	1,25	20,7	5938	2426	15,0
1 A FS	1,54	25,5	5945	2412	15,0
2 A FL	1,97	32,7	5967	2400	15,1
2 A FS	2,40	39,4	5916	2349	14,5
3 A FL	3,39	44,3	4708	2348	7,3
3 A FS	4,30	45,5	3805	2351	5,2
1 S FL	5,43	46,5	3082	2353	3,7
1 S FS	6,78	46,6	2475	2352	3,0
2 S FL	8,81	45,3	1850	2350	2,1
2 S FS	10,97	45,1	1481	2349	1,6
(iii) FIVE-HOUR-TEST at 75% of pull at maximum power					
1 S FS	7,00	36,1	1856	2394	2,1
(iv) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (ii)					
2 A FL	1,96	32,5	5967	2390	-

Total oil consumption during ten hours duration of tests (iii) and (iv) 29 g/h

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Tyre size front: 13,6 R 24 8 ply
rear: 18,4 R 34 8 ply

Tread bar height at the beginning of drawbar tests
front 96%, rear 98% of the value when new

Specific fuel consumpt. g/kWh	Specific energy kWh/l	Temperatures Fuel °C	Coolant °C	Engine-oil °C	Atmospheric conditions Tempe-rature °C	Relative humidity %	Pressure mbar
tyre inflation pressure 0,9 bar front, 1,1 bar rear							
348	2,38	25	76	96	24	57	992
330	2,51	25	76	98	24	58	992
304	2,72	24	76	97	24	58	992
300	2,76	24	75	90	22	60	992
293	2,83	22	75	90	21	63	992
292	2,83	19	75	95	17	91	996
294	2,81	19	75	95	17	91	996
297	2,78	19	75	96	17	88	997
tyre inflation pressure 1,2 bar front, 1,1 bar rear							
407	2,03	18	75	95	16	61	1006
388	2,13	19	75	94	15	63	1006
342	2,42	19	74	87	15	64	1006
339	2,44	18	77	104	16	59	1006
304	2,73	18	76	95	19	52	1006
294	2,82	20	77	98	20	46	1006
289	2,86	20	76	98	19	45	1006
287	2,88	21	76	95	20	48	1006
296	2,80	21	76	95	20	48	1006
296	2,79	21	77	96	20	47	1006
299	2,77	12	76	98	10	64	1006
-	-	18	77	105	19	56	1006

Test (iv) was carried out with additional ballast,
the figures not quoted are therefore irrelevant

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 13,6 R 24 8 ply
rear: 18,4 R 34 8 ply

Track of wheels front: 1696 mm
rear: 1656 mm

Front axle drive disengaged

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space	4,28	4,27	5,00	5,00
Radius of turning circle	4,10	4,10	4,82	4,83

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	933 mm
Distance forward from rear axle centre	893 mm
Distance from tractor's median plane, to the left	2 mm

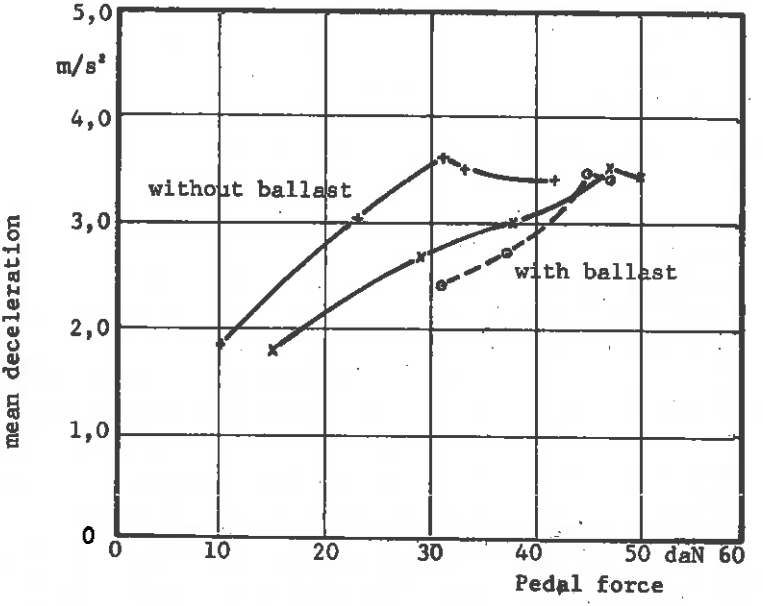
(5) Braking

Date of tests: 13th and 14th April 1981

Tractor masses during tests with driver:	front kg	rear kg	total kg
without ballast	1535	2455	3990
with ballast	2200	3800	6000

A) Service brake

Type-0-test (cold brakes) ——, Type-I-(fade)test – – –



Speed before application of brakes, without ballast 30,75 km/h
with ballast 30,31 km/h

The brakes were heated by towing of the tractor for 1 km

B) Parking brake

	Ballasted tractor on 18%-slope		Unballasted tractor on 12%-slope with trailer of 3000 kg	
	up	down	up	down
Braking device control force daN	25	26	19	20

(6) MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of test: 2nd April 1981
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2209

Results of test

Gear: 2nd Overdrive
Travelling speed before acceleration: 23,1 km/h
Sound level: 85,5 dB(A)

(7) NOISE MEASUREMENT AT THE DRIVER'S EAR

Date of tests: 11th February 1981
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2207

The tractor was fitted with FENDT safety cab

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level daN	Travelling speed nominal km/h	Travelling speed effective km/h	Sound level dB(A)
1 A FL	3775	1,41	1,25	79,5
1 A FS	3766	1,75	1,43	79,5
2 A FL	3749	2,26	1,83	80,0
2 A FS	3773	2,80	2,47	80,5
3 A FL	3814	3,65	3,03	81,0
3 A FS	3468	4,53	4,21	81,5
1 S FL	2820	5,64	5,43	81,0
1 S FS *)	2302	7,00	6,85	82,0
2 S FL	1728	9,03	8,94	82,0
2 S FS	1369	11,19	11,11	81,5
3 S FL	968	14,62	14,71	83,0
3 S FS	771	18,12	18,21	81,5
2nd Overdrive	leight load	29,98	30,75	81,0
1 S FS *)	leight load	7,00	7,58	80,5

*) The 1st S FS-gear corresponds to the travelling speed nearest to 7,5 km/h

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(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

Date of tests: 18th February and 26th March 1981

Power Lift

	Height of lower hitch point above ground in down pos. mm	Vertical movement mm	Max. force exerted through full range daN	Corresp. pressure of hydraul. fluid bar	Moment about rear axle daNm	Max. tilt angle of mast over range of lift degrees
At hitch points	138	721	2730	158	-	-
On the frame	138	804	2370	158	3813	10 *)

Temperature of hydraulic fluid at start of test 65 °C

*) max. tilting angle of mast from vertical position to max. height 5°

Lifting heights relative to horizontal lower links

mm	-478	-421	-400	-300	-200	-100	0	+100	+200	+300	+326
Lifting forces at hitch points											
daN		2730	2770	2870	2960	3020	3000	3000	2980	3020	
Lifting forces at test frame											
daN	2540		2590	2610	2630	2650	2630	2540	2460	2370	2370

Hydraulic Pump Performance

Opening pressure of the relief valve in remote circuit	160 bar
Sustained pressure with relief valve open	182 bar
Pump delivery rate at minimum pressure, the governor control lever being set for max. power	43,6 l/min
Hydraulic power at 90% of relief valve setting	11,1 kW
Corresponding delivery rate	40,5 l/min
Pressure	164 bar
Temperature of hydraulic fluid	65 °C

Tapping point used for test: at rear of tractor

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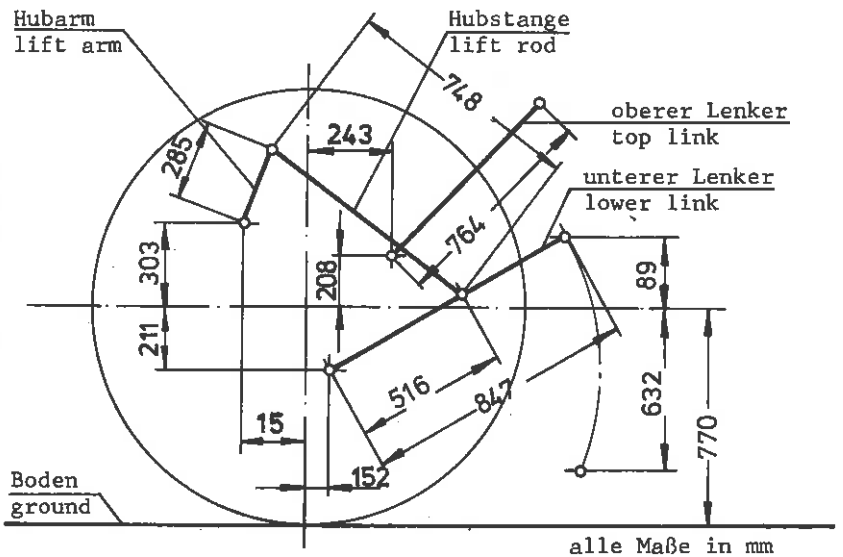
LINKAGE GEOMETRY when connected to the standard frame

Projected length in side view:

Lower links	847 mm
Lift arms	285 mm
Lift rods	748 mm
Top link	764 mm
Distance of lift rod connection point from pivot point of lower link	516 mm

The following dimensions are given relative to the rear wheel centre line, situated 770 mm above ground:

Lower link pivot point	152 mm behind,	211 mm below
Top link pivot point	243 mm behind,	208 mm above
Lift arm pivot point	15 mm forward,	303 mm above
Maximum and minimum height of lower link hitch points	632 mm below,	89 mm above
Height of lower link hitch points when locked in transport position	387 mm below	



alle Maße in mm
all dimensions in mm

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OPTIONAL TESTS

(9) ENGINE PERFORMANCE

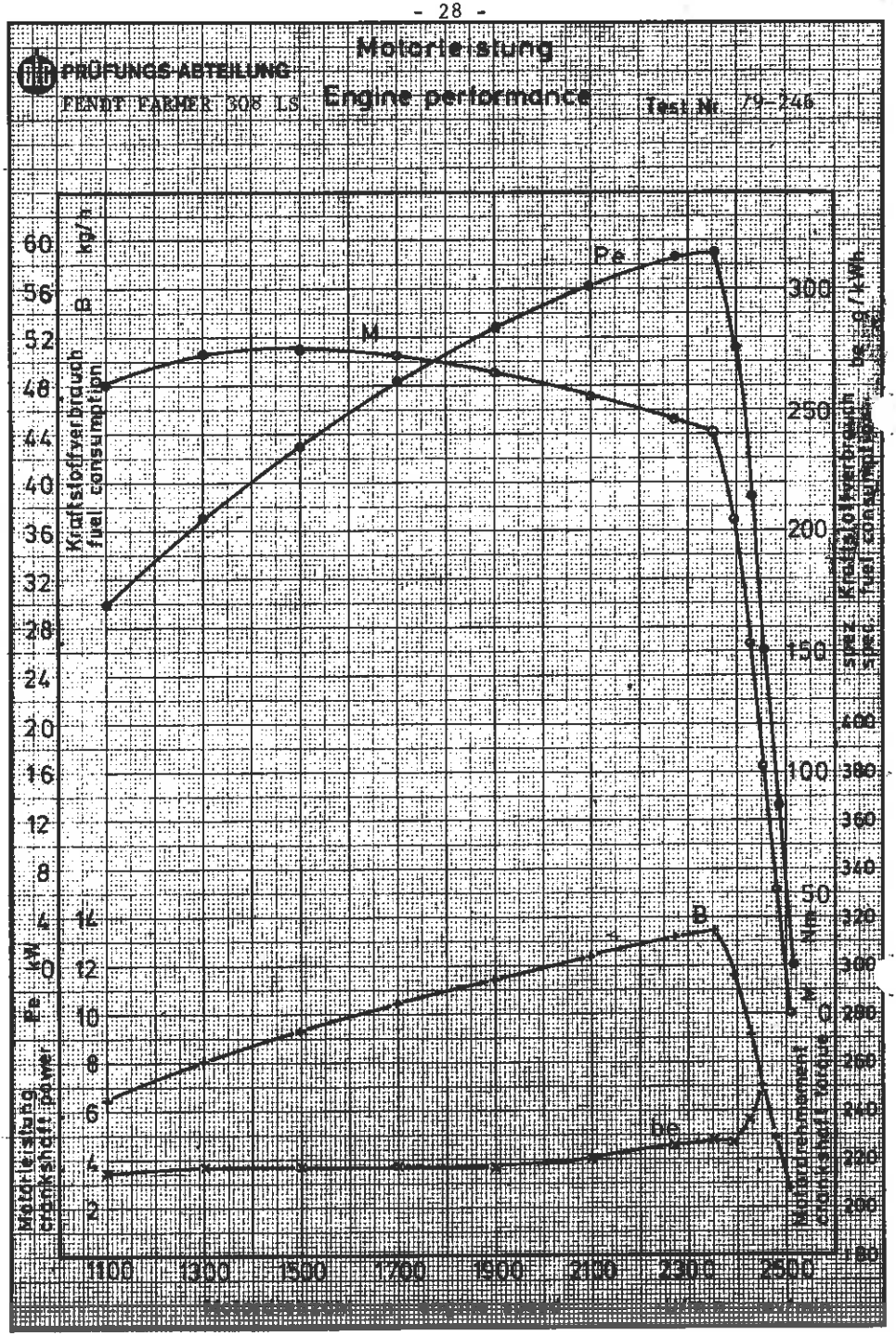
Date of tests: 16th January 1981
Type of dynamometer: SCHENCK eddy-current dynamometer W 150

Power kW	Engine speed rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power					
At 2-hour test					
59,1	2350	16,33	13,50	228	3,62
At standard p.t.o. speed (1000 rev/min)					
58,8	2271	16,05	13,27	226	3,66
At the speed recommended for drawbar work					
59,1	2350	16,33	13,50	228	3,62
Part loads					
(i) 85% of the torque at maximum power at 2-hour test					
51,2	2390	14,06	11,63	227	3,64
(ii) unloaded					
-	2503	3,45	2,85	-	-
(iii) 50% of the load defined in (i)					
26,1	2446	8,61	7,12	273	3,03
(iv) maximum power					
59,1	2350	16,33	13,50	228	3,62
(v) 25% of the load defined in (i)					
13,3	2475	6,01	4,97	374	2,21
(vi) 75% of the load defined in (i)					
38,8	2423	11,11	9,19	237	3,50

Optimum fuel consumption: 209 g/kWh at 35,4 kW and 1528 rev/min
No load maximum engine speed: 2503 rev/min
Torque at maximum power (2 hours): 240 Nm
Maximum torque: 275 Nm at 1498 rev/min of the engine

Mean atmospheric conditions:
- temperature 20°C
- pressure 990 mbar
- relative humidity 33%

Maximum temperatures:
- coolant 79°C
- engine oil 94°C
- fuel 20°C
- engine air intake 21°C


Motorleistung
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FENDT FARMER 308 LS
Engine performance
Test Nr. 79-246
Kraftstoffverbrauch
fuel consumption
kg/h
B
M
Pe
be
Kraftstoffverbrauch
fuel consumption
g/kWh
spez.
Kurbelwellendrehmoment
crankshaft torque
Nm
Kurbelleistung
crankshaft power
kW
Nennleistung
Nennmoment
Nennbetriebspunkt
1100
1300
1500
1700
1900
2100
2300
2500

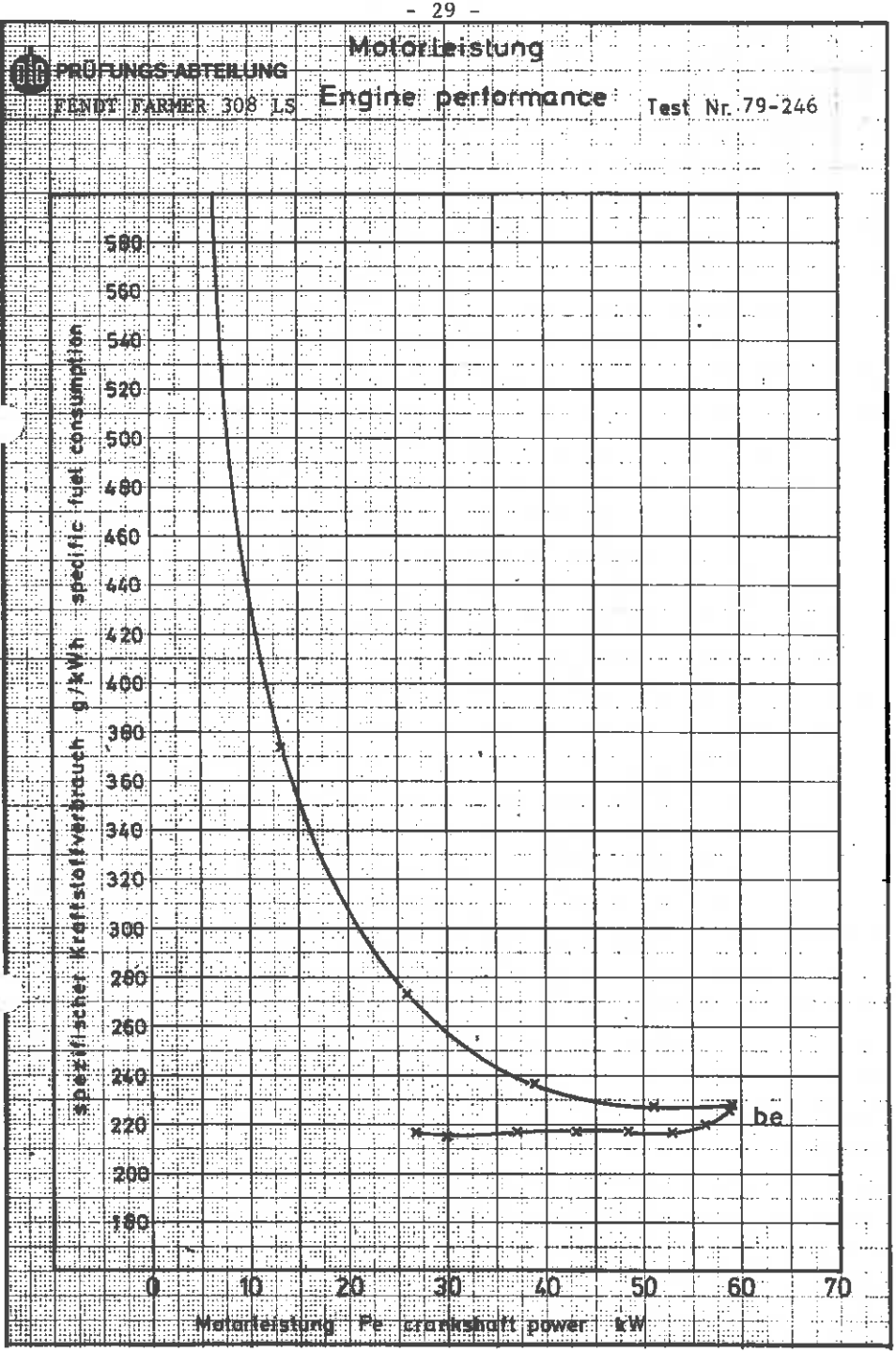
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Motorleistung

Engine performance

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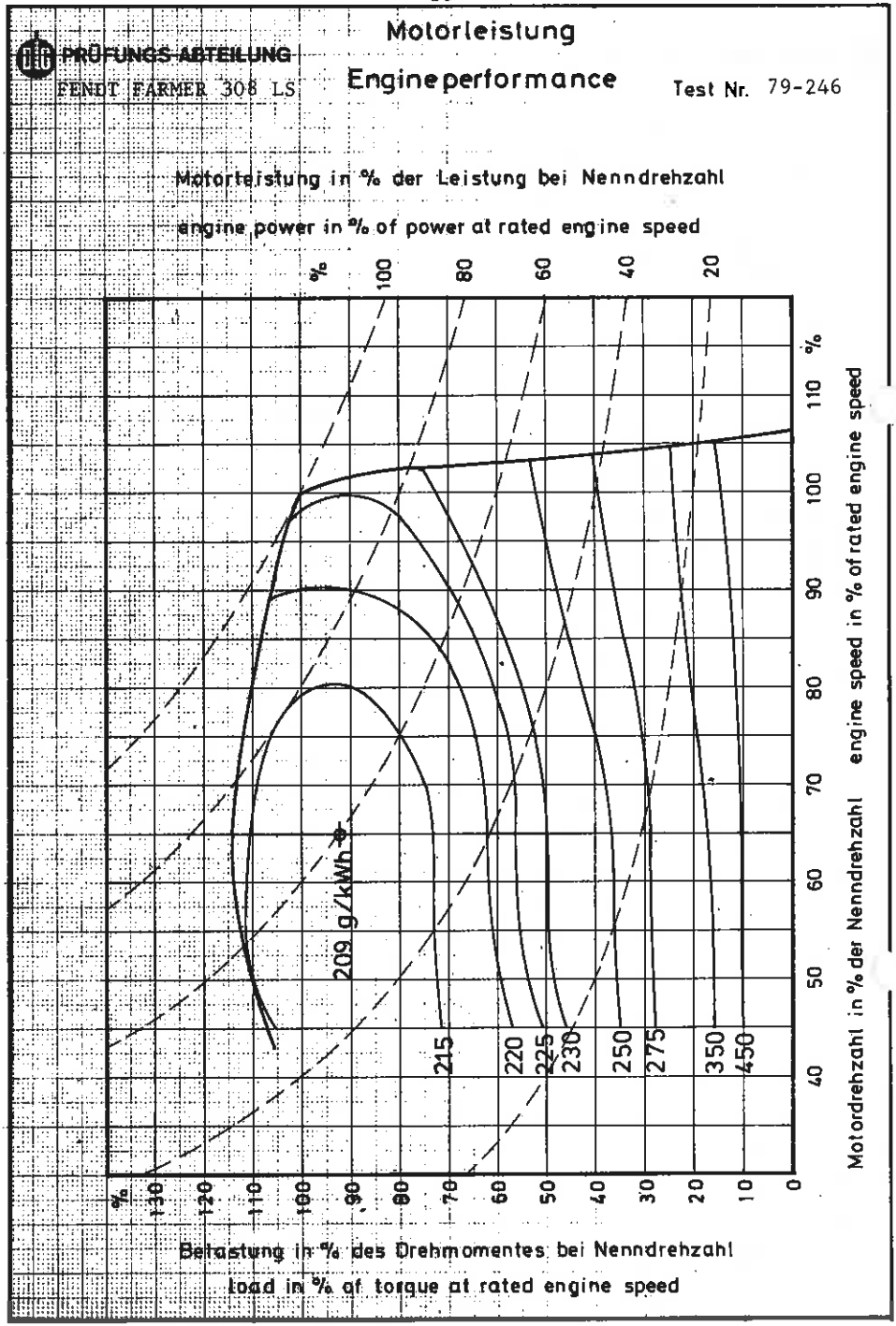
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Motorleistung

Engine performance

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